Notice of Allowability	Application No.	Applicant(s)	
	10/719,312	KUSUDA, MASAYUKI	
	Examiner	Art Unit	
	Tuan H. Le	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *application filed on November 21, 2003*.

2. ☒ The allowed claim(s) is/are *1-21*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Allowable Subject Matter

6/22/07

Claims 1-21 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding **claim 1**, no prior art could be located that teaches or fairly suggests an image capturing apparatus comprises a solid image pickup element including a photosensitive element and a transistor, wherein output from the photoelectric element is input into a first electrode of the transistor for logarithmic transformation. A first reset voltage level among a plurality of reset voltage levels is applied to a second electrode of the transistor so as to reset the transistor in a manner that the image capturing apparatus is operated in a state of moving object extraction image pickup.

Regarding claims **2-11**, these claims depend on claim 1 and therefore area allowed.

Regarding **claim 12**, no prior art could be located that teaches or fairly suggests an image capturing apparatus comprises a solid image pickup element including a photosensitive element and a transistor, wherein output from the photoelectric element is input into the first electrode of the transistor. A first reset voltage level is applied to a second electrode of the transistor so as to reset the transistor in a manner that the image capturing apparatus is operated in a state of moving object extraction image pickup, wherein the first reset voltage level is smaller than a half of a voltage change quantity required for resetting the transistor in such a manner that the image capturing apparatus is operated in a normal image pickup state.

Regarding claims **13 and 14**, these claims depend on claim 12 and therefore area allowed.

Regarding **claim 15**, no prior art could be located that teaches or fairly suggests an image capturing apparatus comprises a solid image pickup element including a photosensitive element and a transistor, wherein output from the photoelectric element is input into the first electrode of the transistor. A first reset voltage is applied to a second electrode of the transistor so as to reset the transistor in a manner that the image capturing apparatus is operated in a state of moving object extraction image pickup, wherein a period of the first reset voltage is shorter than a reset time required for resetting the transistor in such a manner that the image capturing apparatus is operated in a normal image pickup state.

Regarding claims **16 and 17**, these claims depend on claim 15 and therefore area allowed.

Regarding **claim 18**, no prior art could be located that teaches or fairly suggests a method of calculating a reset condition of a transistor in order to achieve a moving object extraction image pickup at a luminance higher than an upper limit value within an assumed object luminance range. This method is used for an image capturing apparatus provided with a solid image pickup element including a photosensitive element and a transistor, wherein output from the photoelectric element is input into the first electrode of the transistor.

Regarding claims **19, 20, and 21**, these claims depend on claim 18 and therefore area allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kakumoto (U.S. Pat. 7,190,399)-- photosensitive element, transistor, reset voltage level, moving object extraction image pickup state, and normal image pickup state.

Kusuda et al (U.S. Pat. 6,867,409)-- pixel, logarithmic conversion, transistor, biased voltage.

Dickinson et al (U.S. Pat. 5,602,585)-- pixel imaging system, motion detection, video and differential mode, frames, and threshold value.

Nomura (U.S. Pat. 6,624,849)--motion detection, differences between pixel frames, external image comparison, and photoreceptive units.

Wantanable et al (U.S. Pat. 7,009,649)—logarithmic pixel converter.

Sano et al (U.S. Pat. 5,526, 058)—logarithmic and antilogarithmic converter.

Nakamura et al (U.S. Pat. 5,289,286)—logarithmic response.

Takada et al (U.S. Pat. 4,973,833)—logarithmic pixel converter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Le whose telephone number is (571) 270-1130. The examiner can normally be reached on M-Th 7:30-5:00 F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tuan Le/

DAVID OMETZ
SUPERVISORY PATENT EXAMINER